
 * TWIN CITY ATARI INTEREST GROUP NEWSLETTER *

April 1983

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MARCH MEETING NOTES

March was the first meeting at the new location, and TAIG has already grown out of it. During the meeting there was standing room only.

Dealers and disk of the month were conveniently located in an adjacent room, however the room will in the future not be 'open' during the regular meeting.

Membership renewals are coming up the first of May for those who were under the old membership method. Be sure to renew if you want to keep the benefits of membership. (Dealers are asked not to give club discounts to expired members.)

Also, May is Officer Election month. Gordy Landsman, 546-5234, volunteered to be head of an Election Committee. Officer posts to be nominated are PRESIDENT, VICE PRESIDENT, SECRETARY & TREASURER. Members are asked to consider volunteering for these or the other appointed positions. (It is assumed no one will be nominated against his/her wishes)

May will also be the date for the next game meet. Phil Siefert is the meet chairman. He is asking for suggestions for games and volunteer helpers. Call 448-7042.

There will be a BEGINNERS SESSION conducted by Bill Nordstrum at 4:30 before the April meeting. This is intended to be very basic session for for those new to the computer in general and the ATARI in particular.

Phil Siefert needs help with the software library. There is a small remuneration for copying the disks of the month. Call 448-7042.

The ANALOG disk is now available at meetings, bring your ANALOG mag. to get the disk.

There will be a cassette clinic for those who want to rejuvenate their unreliable cassette tape players. Call Rick Christian, 771-5269, to be sure there are parts available if you are interested. The clinic will be at 6:00, before the beginners session and after the TAIG meeting. You will need a soldering iron and extension cord. For those who do not wish to attempt exercising their soldering skills, Rick can be talked into doing it for you for \$10.00.

There is an OSA/A+ upgrade for the percom disk drive that can be had for free from Wizards Work for those who have the old version.

BBSers, there is a CP/M BBS up, 432-0428.

It was noted that programs from Spinikar won't load on the Percom, call Spinikar for a new disk.

The 1200XL will crash a lot of software, if you are thinking of buying one over an 800 you may find yourself short on software. At this point TAIG can not recommend the 1200XL till it is sure it will be supported.

TAIG MEMBERSHIP RENEWAL
 by Dale Panton

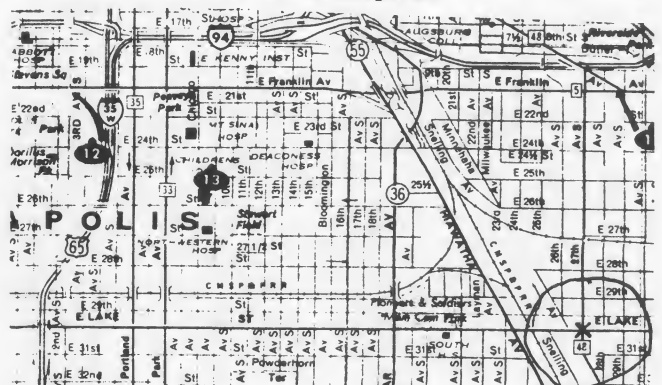
May 1, 1983 is the official anniversary date of TAIG, making TAIG two years old. It is also the renewal date for 140 of our 353 members. If your address label on this newsletter says "RENEW" then you are one of these 140. You can renew your TAIG membership in one of two ways: 1) Come to the April meeting with an extra \$10, fill out a new membership form, and sign up with either Dale Panton or Tom Moore, who will be at a membership table. 2) Fill out the membership form and mail it with \$10 to the address given on the form. You will receive your new membership card either with the May newsletter or at the May meeting.

The reason for filling out a new application form is so that we may update our records to reflect changes of address and any new equipment or interests you have obtained during the last year. Following this mass renewal, smaller numbers of members will come up for renewal every month. For these members the same renewal procedure will apply.

So, don't delay, renew your membership to keep your newsletter coming and to keep your eligibility for the free library. It is uncertain at this point whether an application form will be attached to this newsletter. If it isn't and you need one, call me at 729-5152 or Tom Moore at 722-5095 and we'll send you one.

NEW MEETING PLACE
 BY TRB

This is just a reminder that the meeting place was moved last month to a new location. The meeting place is the Odd Fellows Lodge (in Mpls). The address is 3003 27th Ave. South (near Lake Street and Hwy 55). Check out the map below for travel routes. The meeting room is up 3 or 4 flights of stairs, so be prepared.



SPECIAL NOTE: There will be a preliminary group meeting to discuss Player Missile Graphics at 6:00 before the regular meeting. If you wish to learn more about this advanced feature of the ATARI computer, please show up. This special interest group has a lot of potential. -ed

Well, Radio Shack is totally mistified as to why they are selling so many of the Reverb Units all of the sudden. I would like to stress that to get the full stereo effect, you must split the output of the sound coming out of the ATARI so that you go directly into one channel of the amplifier with one wire and into the reverb and then into the other channel with the other wire (see last months' diagram).

CHILDREN WILL PLAY
by Phil Seifert

The next few months should prove to be very interesting. A lot of new programs have been announced for release. I really don't know where I am going to come up with the money to buy all these things. Oh well.

Starting with the latest releases. I have bought Suspended, a new program from Infocom. They wrote my favorite program, Zork. In keeping with their style, this program is a text only game. The scenario is this. You have been selected to run the world's computer with your brain for the next 500 years. They will freeze your body so you can live that long but when there is a problem, they will wake you up to solve it. When awoken, you will have at your disposal six robots, each with expertise in certain areas. By manipulating these robots you better solve the problem. Suspended requires at least 32k and a disk drive. I blew another \$50.00 for this one because of the weird packaging. I am not going to tell you what it looks like, except that I am ready for Halloween. There are some rumors going around that Infocom will have 4 new titles by the end of the year. I sure would like to know what these are.

Crisis Mountain is out now. This game is from Synergistic Software. It is another one of those in the Donkey Kong-Miner 2049er genre. You are in charge of clearing all the bombs set inside the mountain. Of course you only have so much time to defuse them. The movements available include crawling through passageways. This program has a lot of detail and was mildly interesting. It is only on diskette. If you are dead set in buying a program from Synergistic then go get this one.

I read somewhere that most of Synapse's programs are in house developments. If this is the case then the programmers there are busy little beavers. They have a lot of new programs coming out. One they have released is Pharoah's Curse. This game reminds me a little of Pitfall. The idea is to go around this huge underground complex and retrieve all the clues. I kinda liked this one. The graphics were a little simplistic but I did enjoy the game. It retails for \$35.00 and comes on cassette and disk. In fact, all the Synapse software is going to retail for \$35 and come on cassette and disk. These are their newest titles; N.Y.C., Escape, Blue Max, River Quest, TNT, MX, and Quasimodo. What these programs are, I couldn't tell you. Just thought I would give you something to look forward to.

Atari has few new games coming out too. I have seen Dig Dug and hope it will be released by the next meeting. Two other cartridges they are planning on are Star Trux and Superman III. I think Star Trux may be a Star Trek type game and Atari could not get permission from Paramount to use the name. Oh, I don't know if mentioned that I saw E.T. down at the CES. Based on what I saw, I think I will pass up on this one. However, the kids may like it.

There is a program called Millionaire coming out from a company called Blue Chip Software. Based on the price, I think you have to be millionaire to buy this one for \$80.00. All I know about this program is that it is supposed to be a stock market manipulation game.

I am still waiting for the next generation in shoot-em-up games to come out from Broderbund. The game is called A.E. and looked very interesting on this other computer. It will retail for \$35.00 and require 48k and a disk drive. Broderbund also has another program called Match Boxes coming. Don't know anything but the name and the price of \$30.00. Where is their Arcade Machine for the Atari? This program lets you generate your own arcade games. Just think, if you spent the \$60.00 for it, you wouldn't have

to buy another program. You would just make a new one. Interesting. Star Blazer better be coming out soon or I am going to scream. I have heard something to the effect that they renamed it Sky Blazer for the Atari. This is supposed to sell for \$32.00 and requires a disk and 48k.

Those of you who have purchased S.A.M. are in for a treat. Don't Ask is releasing a program called PokerSam. I understand it to be a poker game with the characters you are playing talking back at you. It retails for \$25.00 and comes on a disk.

I can hardly wait for Prisoner 2 to come from Edu-Ware. If you remember the old television series called the Prisoner, then you know what this game is about. If you don't then just try to get away. This program has gotten a lot of rave reviews on the other computer. Prisoner 2 is an updated version of their Prisoner program. They are not releasing the original for the Atari. Oh well. You can buy this classic for \$40 if you have disk drive (and of course, if you have the money).

Are you still waiting to buy that disk with In-Home's Baseball program? Forget it, they have decided to put it out on cartridge. I guess they just don't trust disks anymore. Baseball on cartridge will cost you \$50.00.

Sirius Software has just started advertising for Blade of Blackpoole and Critical Mass. If you remember my Jan. 83 column then you will recall that these are graphic adventures in the Sierra On-Line mold with full sentence commands. I can hardly wait for these to hit the store shelves. Some other programs Sirius is coming out with are Capture the Flag, Final Orbit, Alpha Shield, and Squish-em. All of these are cartridges and range from \$35.00 to \$40.00. I am not positive, but, I think that Capture the Flag is the new two player version of Wayout. Please don't hold it against me if I am wrong.

Another company joins the Atari software bandwagon. This company is called Phoenix Software and they have two programs; Adventure in Time and Birth of the Phoenix. Adventure will sell for \$30.00 and Birth will sell for \$22.00. Both of these programs are diskettes and require 32k.

I hope Roklan has done a better job with these new programs than they did with Gorf. They are releasing the following on cartridges for \$45.00; Lifespan, Eyes, Rokball, Picture Parts, Space Journey, Da Fuzz, Morl, and Star Maze. I can't begin to guess what these programs are so I think I will wait for them to come out in the stores.

Nexa Software has a new release to follow the non-release of their football program (at least I haven't seen it yet) called Captain Cosmo. This will sell for \$35.00 and come on disk.

Datamost is finally releasing some titles for the Atari. Unfortunately they are not Swashbuckler and the other good stuff. But I think these programs might be okay considering the reputation of Datamost. They are Roundabout, Monster Smash, Eilestoad, Mating Zone, and Night Raiders. All of these retail for \$30.00 and require a disk drive.

That completes the list of new programs coming out that I know of. I would like to point out a good program we saw at the last meeting called Spy's Demise. This one got by me. I didn't know it was coming out. For a \$20.00 price tag I think this one is a must. The game is very addictive and tough to reach the top of the hotel. I wonder if Penguin Software is going to release their other programs for the Atari?

I have a progress report on Starbowl Football. I am not doing too well with it. It seems the computer plays just like a computer, I am getting hung out to dry. The average score against the computer has been about 100 to 14. Need I say more?

It seems that we have a Defender war going on. At the last meeting Mark Nelson told me he set a new record of 7 million something beating Brian Aubitz's 3 1/2 million. Somehow Brian heard about it and got mad. He played Defender for 14 hours and received a final score of over 18 million. Hey, enough is enough already. I can't even break 1 million. From now on, with Defender, you must sit all the way through, not pause it overnight. You can still pause for phone calls and calls of nature.

That wraps it up for this month. I'll see you at the meeting.

Forgot to mention the assistant editor's name last month. He is Ralph Rauterkus (he goes by RAR under his articles titles.) As you can see, we are trying a new column printout mode this month. If you have any preference, please let me know at the next meeting. If I don't hear anything, I will go back to the other method (it is easier and I can get more on a page.)

DISK ARCHIVING
by TRB

Well, you will have to blame the IRS for the lack of a column this month. I do have some stuff put together on creating direct I/O from memory to a disk file at assembly speed from a BASIC program if anyone is interested. I will have some copies available at the next meeting and may include this in the next newsletter. One of the routines is quite unique from anything I have ever seen published in that it allows you to load a multiple link binary file via one call to a subroutine. Also, I am thinking of starting an assembly language tutorial series for people that know BASIC and want to learn just enough assembly to interpret assembly listings. If you think such a series would be useful to you, let me know at the next meeting.

SOFTWARE/HARDWARE NOTES
BY TRB

A lot of new software this month, but I see that Phil has covered all of the good programs. One interesting tidbit I have heard from other Twin City Dealers as well as a New York distributor. ATARI is closing down the 400/800 line of computers late this year or next year. They indicate that an 800 XL series or something like the 800 will still be made (probably in a single board configuration and hopefully still compatible with the 800 software.) Also, it might be a good idea to learn LISP soon. The research group at ATARI under Alan Kay (one of the developers of XEROX's SMALLTALK) is buying at least 6 LISP machines (possibly as many as 50). LISP is the language they will be using for future development research at ATARI (along with FORTH). The LISP Machine is a computer developed by Symbolics whose processor is designed specifically for LISP. I have also heard that the ATARI 1200 may have a ROM fix coming out soon. Whether this will make it more compatible is anyone's guess.

NEWS FROM THE LIBRARY

This month, I have a special treat in store for you. On Disk #18, April '83, we have these programs.

Pac-Man	A maze game where eat dots without getting eaten by ghosts
Defender	Save the humans from being turned into mutants
Choplifter	Save the humans again from the Bungling Empire
Frogger	Can you get frogger home?
Filemanager +	We can't have all these game without a good database
Letter Perfect	A nice word Processing package
Raster Blaster	The classic pinball game.
Odesta Chess	A very good Chess program
Strip Poker	We adults must have some fun too

Due to the length of these programs I found that I couldn't fit them all on one disk. Therefore, there will be no disk for this month and all the programs will be distributed on C-1000 cassettes. The cassettes were specially made for me and will cost about \$100. If you want instructions for these programs include an extra \$100 apiece.

I am going to say something (I don't want to) because I have to protect my legal rear end. APRIL FOOL!!

I would like to point out what the Superdup.obj file on last month's disk is. It is an improved version of Dupany. With this sector copier, you can write with or without verify, use multiple drives and specify what sectors you want to copy. This file is a binary load file and must be loaded from DOS. See everyone at the meeting.

Wizard and the Princess: Let he who hath no scorpion cast the first stone.

Ulysses and the Golden Fleece: Dishonesty is always the best policy.

Mission Asteroid: Watch it.

PROGRAMMER'S TOOL KIT
by Dale Panton

Two newsletters ago program MENUHELP was printed as part of this column. However, the inverse and special characters that are part of the listing were not included. If you are interested in implementing this program, it is now available in the free library.

This month we will try to keep the demonstration program a little shorter and less complicated. For beginning programmers, we will demonstrate the use of a simple subroutine, and for more experienced programmers, the subroutine can be used in existing programs or made part of a subroutine library. The routine is a structured input routine that can be used to provide formatted input to data base-like programs. I've found it to be a useful addition both to the ATARI Program Library package that appeared some time ago in Compute magazine and to the DATABASE II program that appeared in Softside magazine.

Why bother, you say; why not just use the INPUT statement in BASIC, with its telltale question mark to prompt the user? Well, for data base-like programs it is helpful to prompt the user with both a meaningful heading for each input and a graphic indication of how many input characters the program anticipates, without having the user count them as he types. In addition, in some applications it is necessary to pad the input with trailing blanks to provide a specific field length.

And why a subroutine? All this prompting and filling could be coded out sequentially in the program as needed. True, but after a while we find ourselves coding the same statements over and over again, just with different prompt strings. To avoid all this redundant coding, a generalized subroutine is the answer. A subroutine can be thought of as a program module that performs one specific function, has one entrance, and one exit. Parameters or "arguments" can be passed to a subroutine and the subroutine can generate values to be passed back to the calling program. The main feature of a subroutine is that it can be called by a main program or another subroutine and it will automatically return to the statement following the call statement. Generally, in higher level languages like FORTRAN, PASCAL, and C, subroutines operate using their own local set of variables; their only communication with the world outside of themselves is via the arguments. However, BASIC does not have such conventions; in BASIC there are no arguments, except for functions such as SQR(A) or SIN(A), and all program variables are generally accessible to all subroutines.

For the sake of program manageability and programming style, it is often desirable to simulate such conventions in BASIC. This can be accomplished in the following ways: 1) Certain variable names such as ARG1, ARG2\$, etc. can be established to stand for the arguments to subroutines and are used only during the calling and execution of subroutines. 2) Subroutines can be given names and be called by name rather than by number. ATARI BASIC is unique in this regard; most other BASICs do not allow this. 3) Commonly used subroutines can be given high line numbers and LISTed as separate files on a subroutine library disk or cassette rather than being SAVED as BASIC token files. In this way, a subroutine can easily be ENTERed and appended when it is needed to the program you are writing. 4) REMARKS can be placed at the beginning of subroutines to document what the arguments signify. Of course, these guidelines must be flexible; all desirable subroutines can't be made to conform to these conventions. For instance, in data base management there have to be

subroutines that must have access to several major data structures within the program; local variables are just not the way to go. So the above conventions are really just style suggestions that can facilitate the organization and debugging of large programs.

The structured input subroutine at the end of this article is an attempt at using these suggestions. This routine can be demonstrated by typing in the demonstration program, which is also listed below, appending the subroutine, and running the program. Some explanations are in order for novice programmers: There are some special characters indicated in the listings. In line 32012, [RIGHT] indicates a right arrow, which is produced by hitting the ESC key, the CTRL key, and then the right arrow key. Likewise, in line 32020 [BKSP] represents hitting the ESC key followed by the backspace key. In the demonstration program in line 40 [CLEAR] means hitting ESC, CTRL, and SHIFT CLEAR keys. Also in that line [DOWN] is produced like [RIGHT] mentioned above except that the down arrow is used. Lines 32008 and 32010 contain the vertical bar character which may or may not show in the newsletter listing. Note that ARG1\$, ARG1, and ARG2\$ are the arguments to the subroutine. ARG1\$ and ARG2\$, however, must be dimensioned in the main program to avoid the error 9 that would result by repeatedly trying to dimension them each time the subroutine is called. Note also that the routine uses local variables ARG2, ARG3, ARG4, ARG5, and ARG6 for temporary storage. The PEEKs and POKEs to locations 82, 84, and 85 control the left margin and the cursor position; they can be referenced in the back of the BASIC manual. Poking location 752 with 1 or 0 turns the visible cursor off and on, respectively. The subroutine uses GET to read a character from the keyboard, thus the K: device must be OPENed in the main program. This GET statement provides the ATASCII character number; this is why the routine tests for 155, which is the carriage return character number, and 126, which represents backspace.

So, try out the routine; see if you can use it. Within the basic subroutine structure provided there are some interesting enhancements that could be implemented. One is to highlight the display by sending the prompt strings to the routine in inverse video. Another is to use a blinking underline for the cursor. Several other possibilities are left to be explored.

```

32000 REM ----- STRUCTURED INPUT SUBROUTINE -----
32002 REM ARG1$=prompt ARG1=no. chars ARG2$=returned string
32004 ARG2$="":FOR ARG2=1 TO ARG1:ARG2$(ARG2)=" ":NEXT ARG2
32006 ARG4=PEEK(82):ARG5=PEEK(84)
32008 ? ARG1$;" |";:POKE 82,PEEK(85):FOR ARG2=1 TO ARG1:? "-";
32010 NEXT ARG2:? "|";:ARG6=PEEK(84):POSITION PEEK(82)-1,ARG5
32012 ? "[RIGHT]";:ARG2=0:POKE 752,1
32014 GET #2,ARG3:IF ARG3<>155 THEN 32018
32016 POKE 752,0:POKE 82,ARG4:POKE 84,ARG6:? :RETURN
32018 IF ARG3<>126 THEN 32024
32020 IF ARG2>0 THEN ARG2$(ARG2,ARG2)=" ":ARG2=ARG2-1:? "[BKSP]";
32022 GOTO 32014
32024 IF ARG3<32 OR ARG3>122 OR ARG2=ARG1 THEN 32014
32026 ARG2=ARG2+1:? CHR$(ARG3);:ARG2$(ARG2,ARG2)=CHR$(ARG3)
32028 GOTO 32014

```

```

10 REM ----- DEMONSTRATION PROGRAM -----
15 DIM ARG1$(20),ARG2$(80)
20 INP=32000:OPEN #2,4,0,"K:"
25 SETCOLOR 2,12,0:SETCOLOR 1,0,6:SETCOLOR 4,12,2
30 ? "[CLEAR] [DOWN] [DOWN] TYPE 1 [RET] TO END [DOWN] [DOWN]"
35 ARG1$="NAME":ARG1=15:GOSUB INP
40 IF ARG2$(1,1)="1" THEN GRAPHICS 0:END
45 ARG1$="ADDRESS":ARG1=45:GOSUB INP
50 ARG1$="CITY":ARG1=12:GOSUB INP
55 ARG1$="STATE":ARG1=2:GOSUB INP
60 ARG1$="ZIP":ARG1=5:GOSUB INP
65 GOTO 30

```

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If your current version of DISKEDIT or ULTRACOPY is not 2.1 (last modified on 2/27/83) contact me for a free exchange at the next meeting.

DISKEDIT OWNERS: CARTDISK + is now available for \$20.00. This is a fully machine language cartridge copier that will automatically search out most cartridge protection schemes. The preliminary version interfaces to DISKEDIT only, so this program will be sold only to DISKEDIT owners. Note: This program is the only cartridge copier that will work on the 400 as well as the 800 (so far). And 16K cartridges can be copied, too.

NEWCOMERS: DISKEDIT is a SOFT UNLIMITED product (\$25.00) that allows you to view, edit, and copy sectors on a disk. It has advanced features that enable you to search, map bad sectors, and disassemble those 'protected' boot game disks. DISKEDIT also has a user-friendly I/O scheme and is listable for those of you who like to 'see how it is done'. ULTRACOPY is another SOFT UNLIMITED product (\$20.00). It allows you to sector copy a disk in the minimum number of passes possible and allows you to view the progress of the copying. This program is packed with other features, so take a look at it at the meeting (the disk librarian uses it).

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HAM ATARI

Having been an amateur radio operator since the age of eleven I have had the opportunity to experiment with many facets of this exciting communications hobby. For those of you who are not familiar with Ham radio, amateurs can communicate with one another using equipment capable of transmitting and receiving AM, FM, SSB (single sideband), NBFM (narrow band FM), RTTY (radio teletype), SSTV (slow scan TV), FSTV (fast scan), and CW (Morse code). In addition, amateur operators can utilize repeaters, transponders, and satellites to increase the range, effectiveness and reliability of their communications.

Since ham radio is my first love (after my wife and children — although they disagree at times) it didn't take long before I began looking for a suitable match between my Atari 800 and my radio equipment. Unfortunately, the local hams I know either aren't interested in computers or don't know anything about the Atari. So, for a long time I had to be content with my lot and somewhat satisfied satisfied my desire to communicate via computer by frequenting a number of BBS across the country. I have met some very interesting people, but that certain "something" I enjoy with amateur radio is missing. To make matters worse, all the major ham publications print articles on computer networks, on-the-air nets and technical descriptions about interfacing radio equipment with computers. That was it! I called my good friend and fellow amateur, Jerry WA2TLI, and told him he had to buy an Atari 800 so we can experiment. After some heavy discussions with Jerry's wife she was convinced he definitely needs to be involved with computers. We each bought Hayes Smartmodems and then the fun began.

In the beginning Jerry and I uploaded and downloaded over the telephone using Datalink from Swift Software. Each month our phone bills increased and we quickly decided there has to be a better way. Indeed there is. Right there in the Smartmodem owner's manual is the documentation we need to adapt the modem for use with radio equipment. Fortunately, the FCC recently approved amateur use of ASCII computer codes so all we had to do was build an interface (terminal unit). I'll get into the details in a moment, but first a brief discussion of the theory is in order.

When we transmit RTTY on VHF frequencies we are sending two different audio tones to represent the MARK and SPACE RTTY conditions. The MARK is a "rest" machine condition with the current ON. The SPACE condition has current OFF. We use these tones to directly modulate the FM transmitter to produce the F2 emission (audio tone modulation of a frequency modulated signal). Two different tone frequencies are used for the RTTY MARK and SPACE, respectively. The difference between them is called the RTTY Shift Frequency, or for our purposes in this discussion, AFSK (Audio Frequency Shift Keying). To summarize, two electronic interfaces are required for AFSK: A tone encoder to convert the mark and space pulses into audio tones during transmission; and a tone decoder to convert the pulses back during reception. The Modem or Terminal Unit (TU) is the device which combines the transmit tone encoder with the receive tone decoder.

The Smartmodem is ideally suited to handle telephone line and amateur radio data communications at rates up to 300 baud. It contains both tone encode and decode circuitry, permits automatic handshaking between data terminals, includes touch-tone dialing, and is designed to operate in either half or full duplex operation. Although full duplex operation is preferable (data or text can be received and printed while we are entering and transmitting data), most amateur communications take place in half duplex. In other words, we take turns talking or sending and receiving data.

With this general explanation of the theory behind the operation, let's move to the construction of an interface between the Smartmodem and the amateur transmit/receive equipment together with data codes to set the modem to half duplex.

Configure the dip switches behind the front panel of the Smartmodem as follows:

1,2,4,6—UP
3,5,7,8—DOWN

NOTE: Switch #7 must be down in order to key the transmitter.

Use the following keyboard codes to TRANSMIT data:

ATM0 - mutes the modem speaker (optional)
ATF0 - sets the modem to half duplex
ATS10=255A - keys the transmitter and sends the carrier tone

NOTE: Set the transmit deviation to +1.3KHz.

Use the following keyboard code to RECEIVE data:

ATC0H2D

NOTE: When setting up for receive, raise the volume on the receiver until a "Connect" is displayed on the screen. Then reduce the volume until a "No Carrier" appears. Proper setting for receive volume is just past this point.

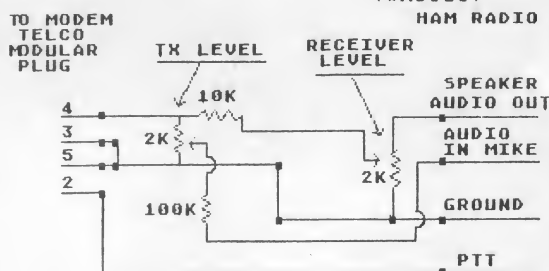
This is all there is to it! Just arrange ahead of time who will originate (transmit) and who will answer (receive). Of course, if both of you can talk to each other on another frequency, then all non-data communication can take place there.

If this article stimulates interest let me know and I will encourage Jerry to write about full duplex operation, RTTY on VHF and UHF FM repeaters, RTTY on simplex channels using the Kantronics Interface and data transferring using SSB (single sideband) on the HF (high frequency) bands.

Happy ham-computing!!!

—Burt Grebin - K2KLN

Ham/Hayes SmartModem Interface
Burt Grebin (K2KLN) and Jerry Gudmore
(WA2TLI)



I have been chosen to run the next game contest. It is temporarily set for the May meeting. There will be \$3.00 entry fee. If you wish to avoid paying this fee, then call me, Phil Seifert, at 448-7042. What I need from you is pledges to bring computer equipment, programs, tv sets, tables, and bodies for refereeing. Please don't dig up the cemetery. This time I get to choose the games. So far I have decided on Miner 2049er (10 minute time limit), Defender (10 minute time limit and Brian Aubitz can't play), Centipede, Frogger, and Star Raiders (no shields, commander level again). For the team competition, I would like to propose we play Basketball.

Please help me out on this one. This will never pull off unless there are a lot of volunteers. Oh, by the way, Brian can play if he wants to.

SOFTWARE REVIEW: CARTDISK PLUS BY RDJ

I see that Soft Unlimited has come out with another program that is unique to the ATARI world. CARTDISK PLUS is quite literally a cartridge to disk transfer program PLUS some extras. The extras include a program to back up the CARTDISK PLUS diskette (only backups will run, a feature that is unique to computer software!), a boot file to DOS file converter program for backed up cartridges, a modified DISKEDIT that auto-disassembles the code so that protected cartridges can be unprotected, and a routine in the CARTDISK PLUS program that actually searches out most of the protection schemes as it is copying the data to the disk. The CARTDISK PLUS program is full assembly, so backups are quick and loading is easy for those repeated attempts. It also has no problem copying 16K cartridges, since it auto-boots without a cartridge. Extra features let you see how big the cartridge you are copying is and indicators let you know if the system is still running (so you know if the system glitched while you were inserting the cartridge.)

This program is currently available only to DISKEDIT owners, since a modified version of DISKEDIT is included on the CARTDISK PLUS diskette. The cost is \$20.00 again the Soft Unlimited low price comes through.

The author indicates that a version will be available for non-DISKEDIT owners for \$25.00, but that no auto-disassemble features will be available in that version. Anyone without the two other SU products, Ultracopy and Diskedit, should consider these anyway, so why not have a full package instead.



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AUDIO over TAPE PROGRAMS

by Chuck Hosick, A.C.A.O.C.

Recent issues of both ANALOG and ANTIC magazines had articles on how to record audio on the left channel of a program tape. The catch is that it requires a recorder which selectively erases only one track. I don't know about you, but I simply do not have one like that. (I probably couldn't afford it - even if I could find one.) What I do have, and many of you may have as well, is a run of the mill stereo cassette recorder. So let's see if we can make it do the job. First let's see if it will record programs to be played back through the 410.

The first problem is interfacing your computer with your stereo recorder. The serial interface jack of the ATARI computer is shown in figure 1. A cable must be made which connects the ground - pin 6 and Data from computer - pin 5 to a plug compatible with your stereo recorder. (Usually an RCA type plug) Connector sockets can be purchased at many electronics surplus stores that will slip over the pins of the serial jack. These should be covered with tubing to prevent the possibility of shorting to an adjacent signal. An easier but somewhat more costly approach, is to buy an interface cable - cut it in two and splice on to the proper wires, or buy a connector directly from ATARI APX for \$9.95 (part number APX-90003). If your recorder has remote stop/start capability, you can use the Motor Control signal on pin 8 to do that as well. (mine doesn't - so I didn't) The interface is shown in figure 2.

The next problem is setting the audio record level. The audio level can be determined by a little trial and error. Take a prerecorded tape from your 410 and play it on your stereo recorder. Note the level that you see on the right channel and adjust the record level to that value when you record from the computer. The audio level on the left channel is less critical, since it simply passes through your computer, but a similar process can be used with a prerecorded voice channel. (see article on tuning your 410 for a procedure to align the head.)

The audio channel can come from a variety of sources. A microphone, another recorder, or even another ATARI computer playing music or speaking through a voice box or SAM. (Software Automated Mouth)

We should now be ready to record. We plug our microphone into the left mike jack of the recorder, our ATARI into the right input jack and we are ready to "roll tape". If you have created the program which is to be recorded on the right track, (as opposed to having loaded it)

type an LPRINT (with the printer or interface turned off if you have them) before you type CSAVE. This compensates for an error in the OS. If you do not use the motor control, you will have to start the recorder after the second beep from your computer.

The tape recorded using this procedure can then be loaded with the 410 in the normal way. However, in order to eliminate the data input sound from interfering with the audio, type in:

POKE 65,0: CLOAD

instead of just CLOAD. Location 65 is the SOUNDER flag - 0 turns it off, 1 turns it on.

and that's about it for voice over tape.

Happy recording

Chuck

	1 □ CLOCK IN
CLOCK OUT □ 2	3 □ DATA TO COMP
GND □ 4	5 □ DATA FROM COMP
GND □ 6	7 □ <u>COMMAND</u>
MOTOR CONTROL □ 8	9 □ <u>PROCEED</u>
+5/RDY □ 10	11 □ AUDIO IN
+12 □ 12	13 □ <u>INTERRUPT</u>

Figure 1

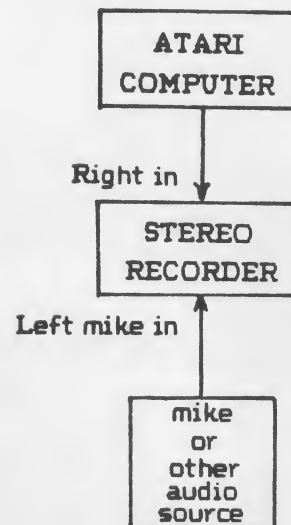


Figure 2

By TRB

This column is unique in that every month I am going to just list the names of all of the new software that I have seen come out. Who produced it and what it's cost is up for you to find out. In the past month or so, I saw: Blade of Blackpoole, Repton, TRION, FINAL FLIGHT, ZAXXON, QIX, SPY'S DEMISE, TWERPS, SUSPENDED, SURVIVOR, A.E., DIG-DUG, CRISIS MOUNTAIN, PHAROAH'S CURSE, ATARI WRITER, BANK STREET WRITER, FILE FAX, and a bunch more that I can't remember. I will be more complete next month, but for now I will leave you with a listing of names of programs that were out prior to 1983. They are: 3-D TIC TAC TOE, 3D SUPERGRAPHICS, A10:SAVAGE IS. P.1, A11:SAVAGE IS. P.2, A12:GOLDEN VOYAGE, A1:ADVENTURELAND, A2:PIRATE ADVENTURE, A3:MISSION IMPOSS., A4:VOODOO CASTLE, A5:THE COUNT, A6:STRANGE ODYSSEY, A7:MYSTERY FUN HSE, A8:PYRAMID OF DOOM, A9:GHOST TOWN, ABUSE, ACTION QUEST, ADVANCED MUSIC SYS, ADVENTURE, AIRSTRIKE, ALI BABA, ALIEN AMBUSH, ALIEN SWARM, AMAC, AMPHIBIAN, ANDROMEDA, APHSAI (FULL SET), APPLE PANIC, APX: 707 SIMUL., APX:ALIENEGG, APX:CASTLE, APX:CHINESE MAZE, APX:SLEAZY ADV, APX:SULTANS ADV, ARENA, ASTEROIDS, ASTROCHASE, ASTROWAR, AT. WORLD PICTS., ATARI WORLD, ATTACK AT EGY6, AVALANCH, BAJABUGGY, BANDITS, BASIC A+, BASKETBALL, BISHOPS SQUARES, BLACK FOREST, BLOCKBUSTER, BOOKKEEPER, BUG ATTACK, BUGOFF, BUMPER, C-COMPILER, C65, CANYON CLIMBER, CAPTIVITY, CAVERNS OF MARS, CAVERNS OF MARS II, CENTIPEDE, CHECKERS, CHESS, CHESS 7.0, CHESS2, CHICKEN, CHOPLIFTER, CLONUS, CLOWNS AND BALLOONS, COMBAT, COMPUTER FINANCE, CRIBBAGE, CROSSFIRE, CROSSWORD MAGIC, CRUSH CRUMBLE CHOMP, CURSE OF RA, CYCLOD, CYPHER BOWL, DATA LINK, DATAPERFECT, DEADLINE, DEFENDER, DISASM, DISKEDIT, DISK MANAGER, DISKEY, DISKSCAN, DODGE RACER, DOGDAZE, DOMINATION, DR. GOODCODES CAVERN, DRAGONS EYE, EASMD, EASTERN FRONT, FANTASYLAND:ARABIA, FANTASYLAND:ARTHUR, FANTASYLAND:CONGO, FANTASYLAND:DANTE,

FANTASYLAND:NEMO, FANTASYLAND:OLYMPUS, FAST EDDIE, FASTGAMMON, FILE MANAGER+, FINANCIAL WIZARD, FLIGHT SIMULATOR, FROGGER, GALACTIC CHASE, GALACTIC EMPIRE, GALACTIC TRADER, GALAXIAN, GENETIC DRIFT, GHOST ENCOUNTER, GHOST HUNTER, GOMOKU, GORF, GTIA NUDES, GUARDIANS OF GORN, HAUNTED HILL, HELLFIRE WARRIOR, HOCKEY, HOTLIPS, INSECTS, INVADERS DELUXE, INVASION ORION, JAWBREAKER, JAWBREAKER II, JEEPERS CREEPERS, JOURNEY TO PLANETS, JUMBOJET PILOT, KALEID, KAYOS, KDOS, KID GRID, KINGDOM, KRAZY ANTICS, KRAZY SHOOTOUT, LABYRINTH, LEGIONNAIRE, LOCKPIC, MAC65, MAD NETTER, MARAUDER, MASTERTYPE, MATCH RACER, MAXWELLS DEMONS, MEDIT, METEOR STORM, MICRO PAINTER, MICRO PICTURES, MICROHOME SOFTWARE, MICROSOFT BASIC, MIDNIGHT MAGIC, MINER 2049ER, MISSILE COMMAND, MISSION ASTEROID, MONSTER MAZE, MOTOCROSS, MOUSEKATTACK, MUSIC COMPOSER, MUSIC LESSONS, NAUTILUS, ODIN, OS/A+, OUTLAW/HOWITZER, PACIFIC COAST HIWAY, PACMAN, PAINT, PATHFINDER, PICNIC PARANOIA, PILOT, PINBALL, PLAYER PIANO, POGOMAN, POLUMBOS, POOL 1.5, PORNOPOLY, PREPPY, PROBE 1, PROTECTOR, PROTECTOR II, QS FORT, QUEST FOR POWER, RASTER BLASTER, RESCUE AT RIGEL, REVERSI, RICOCHET, ROTBERG, SANDS OF EGYPT, SEA FOX, SENTINEL, SERPENTINE, SHADOWHAWK ONE, SHAMUS, SHATTERED ALLIANCE, SHOOT, SHOOTING ARCADE, SLIME, SNAKE BYTE, SNEAKERS, SOCCER 2, SOFT PORN, SOLITARE, SPACE ACE, SPACE EGGS, SPACE INVADERS, SPACE SHUTTLE, SPEED READ, SPEEDWAY BLAST, STAR BASE HYPERION, STAR CROSS, STAR ISLAND, STAR RAIDERS, STAR TREK 3.5, STELLAR SHUTTLE, STOCKS AND BONDS, STRATOS, STRIP POKER, SUBMARINE COMMANDER, SUPER BREAKOUT, SYNASSEMBLER, T.H.E. TERM, TAX DODGE, TELELINK, TELETALK, TEMPLE OF APSHAI, TEXTWIZARD, THRESHOLD, TINY C, TRACK ATTACK, TUMBLEBUGS, TURMOIL, ULTRACOPY, ULYSSES & GOLDEN FLC, ULYSSES DATA SCREENS, UPPER REACHES-APHSAI, VAL FORTH, VAL FORTH EXT., VISICALC, WARLOCKS' REVENGE, WAYOUT, WIZ AND PRINCESS, WIZARD OF WOR, WORD PROCESSOR, WSNF, ZORK I, ZORK II, ZORK III,

Note that over 60 new programs are missing from this list.

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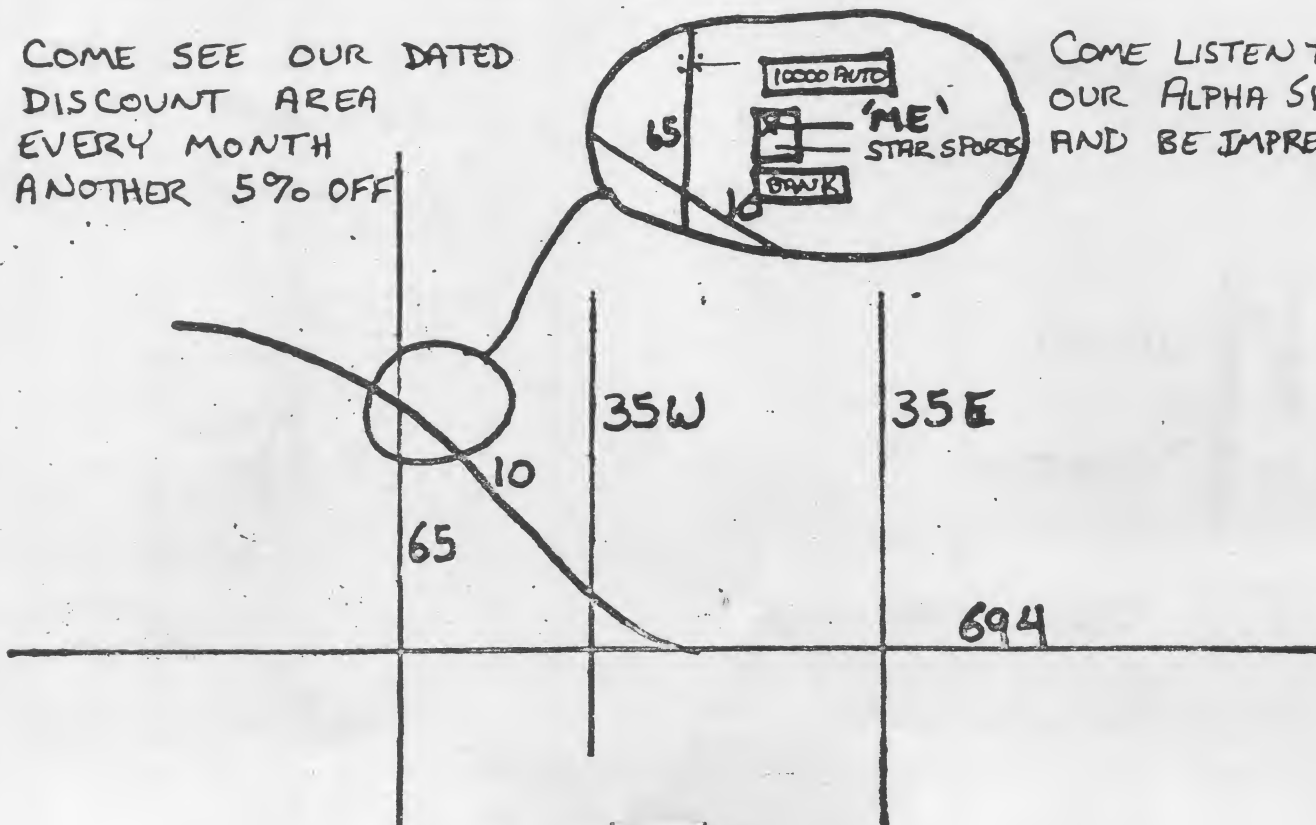
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